

HERPETOLOGY.—*A collection of salamanders from Mount Rogers, Virginia.*<sup>1</sup>

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Although White Top Mountain, Va., is well known to students of salamander distribution, and is subjected to periodic depredation by different collectors; its adjacent neighbor to the northeast, Mount Rogers, has apparently escaped the attention of most herpetologists. The absence of any particular road to the summit of Mount Rogers may be partly responsible for this neglect.

When, in the summer of 1947, we had the opportunity to be in southwestern Virginia, we avoided White Top believing that we could make no particular contribution by further depleting its already well-known herpetological fauna. Instead a period of three days was spent on Mount Rogers. Our station was located on the eastern slope, in Grayson County, at an elevation of about 4,500 feet, from which one all-day journey was made to the top, as well as many short trips in the general region about the camp.

The lower slopes of the mountain are thickly forested with a mesophytic flora which might be characterized as a maple-hemlock-dogwood association, with comparatively little undergrowth of herbaceous plants. Although fir and spruce trees are widely scattered, the extensive stands are restricted to the uppermost 500 or 600 feet of the knob. Here red spruce, *Picea rubra* (DuRoi) Dietr., and southern fir, *Abies fraseri* (Pursh) Poir., seem to comprise the entire evergreen forest, the latter being by far the more abundant. The ground is completely covered by mosses and thick carpets of the wood sorrel, *Oxalis acetosella* L. A striking feature of the evergreen stands is the large number of logs and stumps, all in approximately the same stage of decomposition. The more level parts of the top are covered by heavy growths of various ferns.

From a physiographic standpoint, the Balsam Mountains (of which White Top and Mount Rogers form the bulk) are char-

acteristic of the Southern Section of the Blue Ridge Province. White Top has previously been designated part of the Iron Mountains, but the recent Mount Rogers Quadrangle (*q.v.*) of the U. S. Geological Survey ranks the Iron and Balsam Mountains as separate units.

Although a rather large number of salamanders was encountered, they represented but a few species. The contrast between the salamander fauna of White Top and Mount Rogers is interesting in that the following species reported from the former were not found by us on Mount Rogers: *Triturus v. viridescens*, *Desmognathus monticola*, *Plethodon c. cinereus*, *P. g. glutinosus*, *P. yonahlossee*, and *Pseudotriton ruber nitidus*. It is difficult to account for the apparent absence of several of these species, whereas at least one other form which is scarce on White Top (*Plethodon welleri*), is extremely common on Rogers. In the case of *P. yonahlossee*, it is not inconceivable that we collected above its maximum elevation preferences. The lower slopes seemed very favorable for *P. glutinosus*, but the only *Plethodon* found there was *metcalfei*, which was present in considerable numbers.

In addition to the salamanders which (with the exception of a small series of a strange *Desmognathus* reserved by the junior author for further examination) have been donated to the United States National Museum, the following amphibians and reptiles were found on Mount Rogers: *Bufo terrestris americanus*, *Lampropeltis t. triangulum*, and *Thamnophis s. sirtalis*. One specimen of the last named was seen sunning itself on a rock at approximately 5,500 feet; the others were all seen near our station at 4,500 feet.

We take pleasure in indicating our gratitude to Drs. Horton H. Hobbs, Jr., and Arnold B. Grobman for help in preparation of this paper, and to Dr. Doris M. Cochran for courtesies attendant upon our visits to the National Museum.

<sup>1</sup> Received October 20, 1947.

## LIST OF SPECIES

***Desmognathus fuscus fuscus* (Rafinesque)**

Six specimens, which were not presented to the Museum, were collected in a large seepage area located in a cleared saddle on the northeast side of Mount Rogers. This species was not represented farther down in the stream emanating from the spring.

***Desmognathus ochrophaeus carolinensis* Dunn**

Sixteen individuals, U.S.N.M. nos. 124455-70, were collected at elevations from 4,500 to 5,700 feet. The species seemed to be equally common in evergreen and deciduous forests.

***Desmognathus quadramaculatus quadramaculatus* (Holbrook)**

Nine specimens, mostly large adults, U.S.N.M. nos. 124471-79. On July 2 we collected in a small but cold and swift stream on the eastern slope of the mountain at an elevation of about 4,300 feet. This species was especially common; most of the specimens found being under submerged rocks in rapids. The largest specimen included in our series measures 78 mm from snout to vent, a size not approached by specimens from farther north in Virginia.

***Desmognathus wrighti* King**

Two adults, U.S.N.M. nos. 124480 and 124634, were collected at an elevation of approximately 5,600 feet. They were found in rotting logs in company with *Plethodon welleri*. Mount Rogers is the northernmost locality at which this diminutive salamander has been found.

***Plethodon metcalfi* Brimley**

Eight specimens, U.S.N.M. nos. 124412-18, 124631. This species shares with *D. o. carolinensis* the distinction of being one of the two most abundant salamanders on Mount Rogers, and the size of our series is in no way indicative of the abundance of the animal. In the evergreen forests, *metcalfi* occurred all the way to the very summit of the mountain, although less common on the top; in and under logs but not in stumps.

***Plethodon welleri* Walker**

Eleven specimens, U.S.N.M. nos. 124442-49, 124632-33. The size of the series serves to

indicate the relative abundance of this heretofore supposedly rare species. Far more were collected than were retained. It was not until we were several hundred yards within the evergreen forest that we found the first *welleri*, but thereafter almost every log or stump examined contained one and occasionally two specimens. Most frequently, *welleri* was found in decaying, moss-covered stumps, usually in the upper portion. Individuals found in logs were usually lying with the body in a "U"—the end of the tail near the head. Many of them remained still and were easily caught.

One log, nearly at the top, was found to contain two females with their eggs. This log, seemingly identical with many others investigated, was supported about 18 inches above the ground. The females were discovered in small crevices in the damp wood, about 6 inches apart, an inch under the surface of a layer of moss. Both were curled around the eggs, and showed some reluctance to leave them. In fact, one, on being dislodged, moved back after a short time. The larger clutch contained nine eggs, which were slightly pear-shaped and averaged 4.2 (3.6-5.0) mm in the largest diameter. We could detect no particular pedicles, and the eggs clung together by the adhesive nature of the outer envelopes. The smaller clutch included seven eggs, which are arranged in a ring of five with one above and below at the center. In color, the eggs were a light creamy yellow, and no trace of embryos could be discerned within. The mothers differed in size in accordance with the number of eggs, the larger measuring 47 mm snout to vent (87.5 mm total length) and the smaller 43.5 mm snout to vent (79.1 mm total length). It is interesting that of the many *welleri* seen, the only two with egg masses were in the same log. We wonder if it was due to coincidence or to a tendency of the females to congregate at a sort of *Wochenstube* where conditions for hatching and growth (not apparent to humans) are optimum.

Mount Rogers is the fourth locality reported for this form, and it is probably more abundant there than at any other place. Only a dozen or so specimens have been taken altogether on White Top, thus its abundance on Mount Rogers is the more interesting, particularly in view of the fact that we covered such a small area.

**Gyrinophilus sp.**

One larval specimen, U.S.N.M. no. 124487. This individual was found in the stream noted above under *D. q. quadramaculatus* and was but one of several seen in this and the rivulet where *D. f. fuscus* was secured. We expended several hours in a particular attempt to obtain adults, which seem to have escaped the efforts of White Top collectors as well. One would expect the adults, from geographic probability, to be *Gyrinophilus danielsi*. An attempt which was made to raise the larva to trans-

formation was unsuccessful. Collectors who visit the Balsams in the future should make special efforts to obtain adult specimens.

**Eurycea bislineata wilderae** Dunn

Two adults, U.S.N.M. nos. 124484, 124629, were taken, of which one was found under a rock in a marshy area at about 4,900 feet on the east side of the top. The second example was discovered in a thick leaf pile along the side of the creek mentioned above under *D. q. quadramaculatus*.

**ORNITHOLOGY.**—*The races of the silver-breasted broadbill, Serilophus lunatus (Gould).*<sup>1</sup> H. G. DEIGNAN, U. S. National Museum.

Through the kindness of the authorities of the Chicago Natural History Museum (C.N.H.M.), the Academy of Natural Sciences of Philadelphia (A.N.S.P.), and the American Museum of Natural History (A.M.N.H.), I have been enabled to add to the series of the silver-breasted broadbill in the United States National Museum (U.S.N.M.) to make a total of 93 specimens.

From the taxonomic point of view, this has proved to be a highly unsatisfactory species. While the races may be immediately broken into three main groups, in accordance with the color of the lores (black, rusty, or ashy), further subdivision hinges upon such subtle factors as the extent and intensity of tones of gray and brown and is complicated by a certain degree of individual variation in almost any given character. Thus, while subspeciation appears in all the zoogeographic areas where such might be expected, yet it is a matter of the greatest difficulty to set forth intelligible diagnoses, even when these apply, not to individuals, but to series. In the diagnoses given below, only characters that possess subspecific importance will be noted; it may be said at once that no consequential variation has been found in measurements or in the complicated patterns of wing and tail.

With the understanding that *Serilophus rubropygius* (Hodgson) represents a closely

allied but independent species, I find the following populations of *S. lunatus* apparently worthy of nomenclatorial recognition:

**1. Serilophus lunatus polionotus** Rothschild

*Serilophus lunatus polionotus* Rothschild, Bull. Brit. Orn. Club 14: 7. Oct. 30, 1903 (Mount Wuchi, Hainan).

*Diagnosis.*—The lores black; the sides of the head and the ear coverts pale ashy ferruginous; the forehead pale ashy gray, this color changing insensibly to the pale ashy ferruginous of the crown and nape; the scapulars and upper back ashy gray; the lower back rufous, this color changing to rufous-chestnut on the rump and upper tail coverts; the innermost secondaries chestnut-rufous.

*Range.*—Hainan.

*Specimens examined.*—HAINAN: Mount Wuchi (10 males, 3 females).

**2. Serilophus lunatus elisabethae** La Touche

*Serilophus lunatus elisabethae* La Touche, Bull. Brit. Orn. Club 42: 14. Oct. 29, 1921 (Hokow, elev. 300 feet, southeastern Yunnan Province, China).

*Diagnosis.*—The lores blackish; the sides of the head and the ear coverts pale ferruginous; the forehead pale ashy, this color changing insensibly to the ferruginous of the crown and nape; the scapulars and upper back deep ashy brown; the lower back chestnut-rufous, this color changing to rufous-chestnut on the rump and upper tail coverts; the innermost secondaries chestnut-rufous.

<sup>1</sup> Published by permission of the Secretary of the Smithsonian Institution. Received July 18, 1947.